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Workplace Health and Safety

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# RISK ASSESSMENT

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very likely</td>
</tr>
<tr>
<td>Fatal</td>
<td>Very high</td>
</tr>
<tr>
<td>Serious injury</td>
<td>Very high</td>
</tr>
<tr>
<td>Minor injury</td>
<td>Very high</td>
</tr>
<tr>
<td>PDO/first aid only</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk</th>
<th>Suggested treatment approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>Must be corrected.</td>
</tr>
<tr>
<td>High</td>
<td>Should be corrected or the risk significantly reduced, even if the treatment costs are high.</td>
</tr>
<tr>
<td>Medium</td>
<td>Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.</td>
</tr>
<tr>
<td>Low</td>
<td>Should be corrected or the risk reduced, if the treatment cost is low.</td>
</tr>
</tbody>
</table>
RISK ASSESSMENT BY STATISTICS?

• Pedestrians most at fault 82% of the time in pedestrian crashes
  – (QDTMR 2009)
• No pedestrian risk exposure models widely available to traffic control practitioners
• No statistics on correlation between verge width, traffic speeds, traffic volumes
“Where there is a demand for use of the detour by pedestrians, cyclists or wheelchairs, facilities such as footpaths, cycle tracks and sealed shoulders as appropriate to the demand and the safety requirements should be provided.”

AS1742.3
Where pedestrian traffic has been diverted onto an existing roadway ... a mesh fence may be used provided that:

– the clearance is at least 1.2 m if 60 km/h or less;
or
– the clearance is less than 1.2 m if limit is 40 km/h or less.

QUEENSLAND MUTCD
COMPLIANCE

Complies with MUTCD, But is it Safe?

Final Alignment. Is it Safe?
LOCATION
GOLD COAST LIGHT RAIL EARLYWORKS

- 2km of Roadworks and Service Relocations
- Construction Space Constrained
- Traffic Volumes High
- Pedestrian Volumes High
- Properties and Driveways throughout
- 6 Pedestrian Signal Crossings
- Holiday and Entertainment Area
- Public Transport Route
BARRIERS
BALANCING RISKS
PEDESTRIAN BEHAVIOUR RISKS
OBSERVED BEHAVIOURS

• higher levels of jaywalking
• barrier lines as refuge / median
• climbing over barriers
• walking on the traffic side of the barrier
• walking on top of barriers
CONSIDER

• lowering existing speed limits
• install barriers, but consider desire lines and deflection issues
• pre-construction illegal pedestrian movements
• identify risks associated with demographics / land uses
• discourage pedestrian behaviour through pavement markings, signage
• temporary structures where detour is excessive
• risk assessment of introduced risks & pedestrian behaviour risks.
SUMMARY

• No quantitative risk evaluation methods
• Data on relationship between pedestrian crashes and roadside environment not widely available
• Risk assessment is subjective or compliance based
• Standards don’t cover different locations, pedestrian volumes, or detour guidelines
• Focus on risk of errant vehicles
• Are pedestrians themselves the biggest risk?
• Barriers should be used but other risks assessed
FURTHER RESEARCH

- Pedestrian crashes at worksites
- Risks and Benefits of (short) Barrier segments
- What speed minimizes the risk of errant vehicle pedestrian crashes?
- Does barrier kerb protect pedestrians?
- Managing Pedestrian Behaviour through devices and linemarking.
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